In the Claims

Please replace all prior versions, and listings, of claims in the application with the following list of claims:

Listing of the Claims

1. (Currently Amended) An explosive detection system comprising:

a network;

a device coupled to the network that scans an object ~~using radiation~~ and generates information about the object from the scan~~, the information providing an indication of effective atomic member over substantially all of the object and an indication of density over at least a portion of the object~~; and

an external computer, located remotely from the device, that receives the information over the network and implements an algorithm to make a threat determination about ~~a region of~~ the object.

2. (Original) The system of claim 1 wherein the device includes a CT scanner.

3. (Original) The system of claim 1 wherein the device includes a dual energy X-ray scanner.

4. (Original) The system of claim 1 wherein the device includes a combination dual energy X-ray and CT scanner.

5. (Original) The system of any of claims 1-4 wherein the information includes that from which a density and a mass of the object can be determined by the computer.

6. (Currently Amended) A method for making a threat determination about an object comprising:

scanning the object with ~~an explosive detection~~ a scanning device to obtain scan data; ~~that employs radiation~~;

generating information about the object from the scan data~~, the information providing an indication of effective atomic member over substantially all of the object and an indication of density over at least a portion of the object~~;

transmitting the information over a network to an external computer, located remotely from the scanning device; and

with the external computer, implementing an algorithm to make a threat determination about ~~a region of~~ the object.

7. (Currently Amended) The method of claim 6 wherein the scanning data is a CT scanner, and wherein the step of scanning includes the step of performing a computed tomography scan with [[a]] the CT scanner.

8. (Currently Amended) The method of claim 6 wherein the scanning device is a dual energy X-ray scanner, and wherein the step of scanning includes the step of performing a high energy and a low energy scan using [[a]] the dual energy X-ray scanner.

9. (Currently Amended) The method of claim 6 wherein the scanning device is a combination dual energy x-ray and CT scanner wherein the step of scanning includes performing a high and low energy X-ray scan and a computed tomography scan using a combination dual energy X-ray and CT scanner.

10. (Original) The method of any of the previous claims 6-9 wherein the information includes that from which a density and a mass of the object can be determined by the computer.

11. (Currently Amended) The method of claim 9 wherein ~~generating~~ the information about the object comprises indicating regions of the object based on effective atomic numbers.

12. (Currently Amended) The method of claim 6 wherein the step of generating information about the object comprises:

i) forming a plurality of picture elements;

ii) segmenting a group of picture elements from their background;

iii) describing that group of picture elements by a set of features;

iv) using the resulting set of features to classify the group of picture elements as a potential target object.

13. (Currently Amended) An explosive detection system comprising:

a) a network;

b) at least one ~~x-ray~~ radiation based scanner connected to the network generating information about an item under inspection, the information including at least values representative of density and effective atomic number over substantially all of the item[[s]] under inspection; and

c) a computer, external to the at least one scanner, connected to said scanner via the network, the computer configured to receive the information over the network and to execute algorithms that detect potential target objects within the item under inspection.

14. (Previously Presented) The explosion detection system of claim 13 wherein the algorithm combines information on effective atomic number, density and confidence levels associated with the information on effective atomic number and density to detect a potential target object.

15. (Previously Presented) The explosion detection system of claim 14 wherein the algorithm comprises a region growing algorithm.

16. (Previously Presented) The explosion detection system of claim 14 wherein the algorithm combines information on proximity of a region to metal to detect a potential target object.

17. (Previously Presented) The explosion of claim 13 wherein the network comprises an Ethernet network.